

# 1451140727

Form 1220-5  
(July 1970)

ID: 88080005

TN209

Filing Code

1400-451/9111

Date Issued

BLM-53-70-20  
September 1970QL  
84.2  
.L35  
110.209  
C.3

## TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

BUTYL RUBBER AND PLASTIC  
CULVERT DOWNSPOUTS

As a result of a suggestion by George H. Ryan from Coos Bay District Office the following information is published for optional use.

The use of butyl rubber and plastic culvert downspouts has proved to be an inexpensive and yet effective means of minimizing erosion through culvert discharges. One drawback of these installations is that they often tend to whip about due to wind action. This can cause the sleeve to take on a twist which impedes water flow and endangers the installation.

The effects of wind on flexible downspouts can be minimized by threading a rope through the sleeve, anchoring it to the culvert at one end, and to a steel fence post at the other end. The attached diagram shows details of the installation.

The rope used in the installation needs to be only 1/4 inch in diameter, but must be highly weather resistant. Nylon or any of the plastic materials which are currently available for as little as 5¢ per foot are excellent.

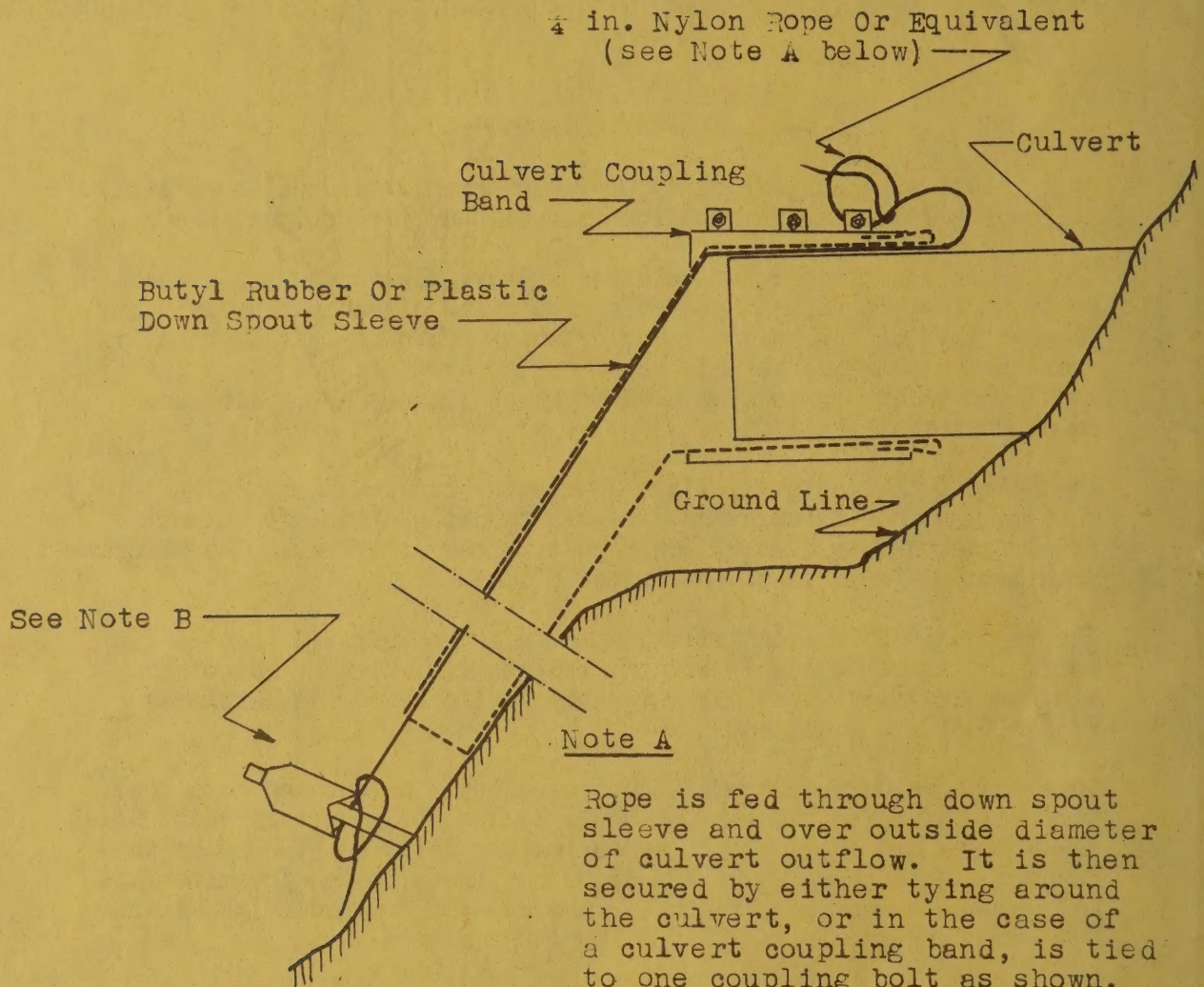
This rope can be fed through the sleeve by tying one end to a long pole and threading the way one would manipulate a curtain rod. Steel fence posts are available at approximately \$1.00 each. Use of this feature adds between \$2.00 and \$3.00 per installation for materials, and about 1/2 man hours to the normal cost of downspout installation. The structure should last the life of the sleeve.

In addition to holding the sleeve in line with the culvert, this installation also tends to hold the sleeve partially open, thus promoting better water discharge. This fact proves particularly advantageous when water is being channeled across areas of shallow slope gradient.

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A SIMPLE METHOD OF STABILIZING BUTYL RUBBER  
AND PLASTIC DOWN SPOUT SLEEVES AGAINST WIND ACTION



Note A

Rope is fed through down spout sleeve and over outside diameter of culvert outflow. It is then secured by either tying around the culvert, or in the case of a culvert coupling band, is tied to one coupling bolt as shown.

Note B

Rope is "tight lined" and tied to a steel fence post installed approximately 2 ft. from outflow of sleeve.